

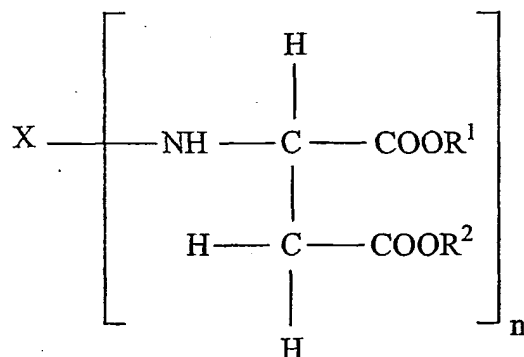
CLAIMS

1. A coating composition comprising a binder consisting essentially of

a. polyisocyanate crosslinking agent;

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b. an isocyanate-reactive component having at least one compound having the following formula:



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wherein X is an aliphatic or cycloaliphatic group, R¹ and R² are the same or different organic groups that are inert to isocyanate groups, and n is 2 to 4, and

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c. optionally, a polymeric component having a number average molecular weight of 5,000 to 50,000 and having reactive groups that crosslink with an isocyanate, where the reactive groups are selected from the group consisting of hydroxyl, carboxyl, glycidyl, amine and any mixtures thereof; and

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d. optionally, an oligomeric component having a number average molecular weight of 300 to 3,000 having reactive groups that crosslink with an isocyanate, where the reactive groups are hydroxyl, carboxyl, glycidyl, amine, aldimines, phosphoric acid, ketimine and any mixtures thereof; and

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e. additives consisting essentially of:

- (1) a disubstituted phenol antioxidant or a hydroperoxide decomposer,
- (2) an ultraviolet light absorber, and
- (3) a hindered amine light stabilizer.

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2. The coating composition of claim 1 in which X is a cycloaliphatic group and R¹ and R² are aliphatic groups.

10 3. The coating composition of claim 2 in which X is a cycloaliphatic group and R¹ and R² are alkyl groups having 2 to 8 carbon atoms.

15 4. The coating composition of claim 1 in which the isocyanate reactive component is the reaction product of methylene bis (cyclohexyl amine) and dialkyl maleate.

20 5. The coating composition of claim 1 wherein the binder contains 1 to 50% by weight, based on the weight of the binder, of an acrylic polymer having a number average molecular weight of 5,000 to 50,000 and having groups reactive with isocyanate.

25 6. The coating composition of claim 5 the acrylic polymer consists essentially of polymerized monomers selected from the group consisting of linear alkyl (meth)acrylates having 1 to 12 carbon atoms in the alkyl group, alkyl (meth)acrylates having 1 to 12 carbon atoms in the alkyl group, cyclic or branched alkyl (meth)acrylates having 3 to 12 carbon atoms in the alkyl group, isobornyl (meth)acrylate, styrene, alpha methyl styrene, (meth)acrylonitrile, (meth)acryl amides, and polymerized monomers that provide groups reactive with isocyanate selected from the group consisting of hydroxy alkyl (meth)acrylates, glycidyl (meth)acrylates, amino alkyl(meth)acrylates and (meth)acrylic acid.

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7. The coating composition of claim 6 wherein the acrylic polymer has a hydroxyl equivalent weight of 300 to 1300 and consists essentially of polymerized monomers selected from the group consisting of alkyl (meth)acrylates having 1 to 12 carbon atoms in the alkyl group, cyclic or branched alkyl (meth)acrylates having 3 to 12 carbon atoms in the alkyl group, isobornyl methacrylate, styrene, alpha methyl styrene, (meth)acrylonitrile, (meth)acryl amides, and polymerized monomers consisting of hydroxy alkyl (meth)acrylates having 1 to 4 carbon atoms in the alkyl group.

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8. The coating composition of claim 7 wherein the acrylic polymer consists essentially of styrene, ethylhexyl methacrylate, isobornyl methacrylate and hydroxyethyl methacrylate.

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9. The coating composition of claim 1 wherein the binder contains 1 to 50% by weight, based on the weight of the binder, of an acrylic oligomer having a number average molecular weight of 300 to 3,000 and having groups reactive with isocyanate selected from the group consisting of hydroxyl, carboxyl, glycidyl, amine, aldimines, phosphoric acid, ketimine and any mixtures thereof.

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10. The coating composition of claim 9 wherein the oligomer consists essentially of polymerized monomers selected from the group consisting of linear alkyl (meth)acrylates having 1 to 12 carbon atoms in the alkyl group, alkyl (meth)acrylates having 1 to 12 carbon atoms in the alkyl group, cyclic or branched alkyl (meth)acrylates having 3 to 12 carbon atoms in the alkyl group, isobornyl (meth)acrylate, styrene, alpha methyl styrene, (meth)acrylonitrile, (meth)acryl amides, and polymerized monomers that provide groups reactive with isocyanate selected from the group consisting of hydroxy alkyl (meth)acrylates, glycidyl (meth)acrylates, amino alkyl(meth)acrylates and (meth)acrylic acid.

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11. The coating composition of claim 1 wherein the polyisocyanate is selected from the group consisting of aliphatic

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polyisocyanates, cycloaliphatic polyisocyanates, aromatic polyisocyanates and isocyanate adducts.

12. The coating composition of claim 1 in which the
5 polyisocyanate is selected from the group consisting of isophorone diisocyanate, hexamethylene diisocyanate, and trimer of hexamethylene diisocyanate.

13. The coating composition of claim 1 wherein the binder
10 contains 1 to 50% by weight, based on the weight of the binder, of a polyester having hydroxyl groups.

14. The coating composition of claim 1 wherein the binder
contains 1 to 50% by weight, based on the weight of the binder, of a
15 urethane oligomer that is the reaction product of a polyisocyanate selected from the group consisting of an aliphatic polyisocyanate and a cycloaliphatic polyisocyanate; a hydroxy functional aliphatic carboxylic acid and a monohydric alcohol selected from the group consisting of aliphatic monohydric alcohol and cycloaliphatic monohydric alcohol.

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15. The coating composition of claim 14 wherein the urethane oligomer consists essentially of the reaction product of the isocyanurate of hexane diisocyanate, cyclohexanol, dimethylol propionic acid.

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16. The coating composition of claim 1 which contains about 0.1% to 5% by weight, based on the weight of the binder, of an ultraviolet light absorber.

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17. The coating composition of claim 1 which contains about 0.1% to 5% by weight, based on the weight of the binder, of a di-substituted phenol antioxidant.

18. The coating composition of claim 1 which contains about 0.1% to 5% by weight, based on the weight of the binder, of a hydroperoxide decomposer.

5 19. The coating composition of claim 1 which contains about 0.1% to 5% by weight, based on the weight of the binder, of a hindered amine light stabilizer.

20. A substrate coated with the composition of claim 1.

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21. A substrate having a base coating of a pigmented coating composition, which is top coated with a clear coating of the composition of claim 1.

15 22. A substrate having a multi-layer coating comprising a pigmented primer coating of the composition of claim 1, a base coating of a pigmented coating composition, and a top-coating of a clear coating of the composition of claim 1.

20 23. A process for coating an auto body or auto part which comprises

applying a base coating of a pigmented coating composition to a substrate;

25 applying a top-coating of a clear coating of the composition of claim 1 over the base coating and

curing the base coating and top-coating to form a base coat/clear coat finish on the substrate.

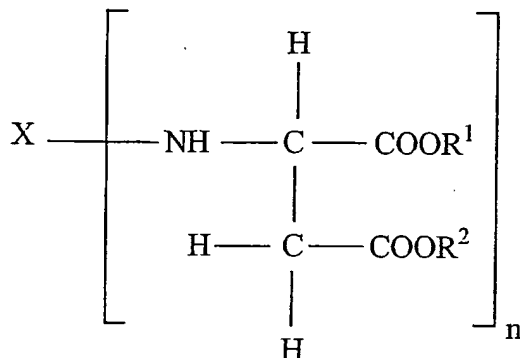
30 24. An auto body or auto part coated with the composition of claim 1.

25. A two component coating composition comprising

Component A comprising a polyisocyanate crosslinking agent; and

Component B comprising an isocyanate-reactive component having at least one compound having the following formula:

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wherein X is an aliphatic or cycloaliphatic group, R¹ and R² are the same or different organic groups that are inert to isocyanate groups, and n is 2 to 4, and

optionally, a polymeric component having a number average molecular weight of 5,000 to 50,000 and having reactive groups that crosslink with an isocyanate, where the reactive groups are hydroxyl, glycidyl amine and any mixtures thereof; and

optionally, an oligomeric component having a number average molecular weight of 300 to 3,000 having reactive groups that crosslink with an isocyanate, where the reactive groups are hydroxyl, carboxyl, glycidyl, amine, aldimines, phosphoric acid, ketimine and any mixtures thereof; and

the following additives consisting essentially of:

a di-substituted phenol antioxidant or a hydroperoxide decomposer, an ultraviolet light absorber, and a hindered amine light stabilizer;

wherein Components A and B are thoroughly mixed together before application to a substrate.